

II.—ADAMKIEWICZ: THE SWEAT NERVES.

DIE SECRETION DES SCHWEISSES—Eine bilateral-symmetrische Nervenfunction. Nach Untersuchungen am Menschen und an Thieren. Dargestellt von Dr. Albert Adamkiewicz. Berlin, 1878. (*The Secretion of Sweat, etc.*)

Among the different animal secretions some are due solely to filtration of the fluid portion of the blood through the tissue of the glands; such are the secretion of urine, bile and milk. Other secretions, however, depend on an activity of the living gland-tissue, which may be excited by stimulation of its nerves, and which will continue to act even after cessation of the circulation. So far only the salivary and lachrymal glands have been proven to belong to the latter category. The researches of our author have now included the sweat glands as well in this class. (Independently of Adamkiewicz, Luchsinger has arrived at the same results at the same time.)

Proceeding from the common experience, that muscular movements are followed by sweating, he galvanized various motor nerves in man. As a result, sweat drops appeared at once on the corresponding portion of the skin, and continued to be formed for a short time after interrupting the stimulation. The sweating region is the portion of the skin over the contracting muscles, but this is always accompanied by sweating of the symmetrical spot on the other side of the body. The perspiration is independent of the circulation, as it occurs equally intensely, and just as soon after compression of the main artery, for instance, the femoral. It can be induced as well by direct galvanization of the muscles as by their *voluntary* contraction. It must be mentioned, however, that Adamkiewicz selected as subjects persons with a disposition to sweat.

To obtain a reflex perspiration he made use of the faradic brush. Its application is speedily followed by sweating of the irritated spot and its mate on the other side. In persons predisposed to sweating, the perspiration, however, is induced soon in all those parts which sweat most readily, normally, such as the palms and soles. This result he expresses in the law, "that the secretion of sweat occurs in man always symmetrically on both sides, and independently of the place of stimulation." The same law holds good when thermic stimulation is resorted to. The contact of a substance some 6–8° C. warmer than the body produces bilateral sweating on those spots most liable to perspiration, such as the soles of the feet, even when the warm body is applied in another locality. A cold substance, on the other hand, will not induce, but rather check, perspiration. Cold, however, is a powerful stimulus to unstriated muscles, and the contraction of the fibres surrounding the sweat glands can force out their contents.

Extending his experiments to animals, the author showed that in cats the paws will sweat on stimulating the sciatic nerve, even after death or removal of the member, which proves the independence of perspiration from the circulation. On stimulating the undivided nerve, a very slight sweating is also noticeable on the paw of the other side. Evidently the tendency to symmetrical bilateral sweating is less developed in the cat than in man. The sweat nerves retain their irritability longer than the motor nerves; at a time after death, when stimulation of the sciatic nerves has ceased to produce muscular contraction, the appearance of drops of sweat is still often noticeable. The perspiration of the head and neck caused by section of the sympathetic nerve in the horse has usually been attributed to paralysis of that nerve. It ceases, however, about six hours after the operation, and does not return again. There is hence more cause to attribute it to the traumatic irritation of the sympathetic nerve.

As regards the sweat centres in the cord, Adamkiewicz found that perspiration of the hind paws can continue after division of the spinal cord at the level of the first lumbar vertebra. Removal of the lumbar cord, however, prohibits all further spontaneous sweating of the hind paws. After section of the cord at the level of the first lumbar vertebra stimulation of the central end of the divided sciatic nerve causes a reflex sweating of the other leg. On shortening the lumbar cord by successive slices, it was found that the spinal centres of the sweat nerves of the hind paws are situated in the portion between the first and fourth lumbar vertebrae. This coincides with the centres of the motor nerves of the leg; similarly it was found that the centres of sweat nerves and of the motor nerves of the anterior extremity coincided in their position. The sweat nerves leave the cord with the anterior roots, since reflex perspiration can still be obtained after division of all posterior roots of the lumbar fragment. Histologically we are to infer that the sweat centres exist in the anterior cornua. This supposition was confirmed by a case of poliomyelitis anterior acuta, in which the motor paresis was accompanied by paralysis of the sweat nerves.

After removal of the lumbar fragment of the cord, stimulation of the brachial plexus will still produce sweating of the hind paws. This is due to the influence of fibres joining the sciatic nerve, and coming from the sympathetic. Their origin is found in that portion of the cord included between the tenth and thirteenth dorsal vertebrae (of the cat).

Finally, it was shown that the common centre of all sweat nerves exists in the medulla oblongata.

Thus far the experimental part of this work, the results of which are in unison with the independent, though contemporaneous researches of Luchsinger. The remainder of the *brochure* is devoted to some reflections on the bilateral symmetry in the innervation of sweat glands and muscles.

H. G.

SHORTER NOTICES.

- I. PHYSICS OF INFECTIOUS DISEASES. Comprehending a Discussion of certain Physical Phenomena in connection with the Acute Infectious Diseases. By C. A. Logan, A. M., M. D. Chicago: Jansen, McClurg & Co., 1878. 212 pages.
- II. A MANUAL OF OPERATIVE SURGERY. By Lewis A. Stimson, B. A., M. D. With three hundred and thirty-two Illustrations. Philadelphia: Henry C. Lea, 1878. 477 pages. Chicago: Jansen, McClurg & Co.
- III. HANDBOOK OF OPHTHALMOLOGY. By Prof. C. Schweigger, of the University of Berlin. Translated from the Third German Edition by Porter Farley, M. D. With Diagrams and other Illustrations. Philadelphia: J. B. Lippincott & Co., 1878. 555 pages. Chicago: Jansen, McClurg & Co.
- IV. CONGENITAL OCCLUSION AND DILATATION OF LYMPH-CHANNELS. By Samuel C. Busey, M. D. New York: Wm. Wood & Co., 1878. 187 pages. Chicago: Jansen, McClurg & Co.
- V. A MANUAL OF NURSING. Prepared for the Training School for Nurses, attached to Bellevue Hospital. New York: G. P. Putnam's Sons, 1878. 143 pages. Chicago: Jansen, McClurg & Co.
- VI. SIXTH ANNUAL REPORT OF THE SECRETARY OF STATE OF THE STATE OF MICHIGAN, RELATING TO THE REGISTRY AND RETURN OF BIRTHS, MARRIAGES AND DEATHS FOR THE YEAR 1872. By authority. Lansing, 1877. 464 pages.
- VII. ALGESIMETRIE. Eine neue einfache Methode zur Pruefung der Hautsensibilitaet, von Dr. Friedrich Björnstrom. Upsala, 1877. (*Algesimetry. A new simple method for testing the cutaneous sensibility, etc.*)

I. The author of this work, during an extended residence in an official capacity in South America (as U. S. Minister to the Republic of Chili), had his attention called to certain peculiar phenomena of disease in that region; a complete or partial immunity from some of the infectious diseases so deadly elsewhere, and a modified condition of others. He was led to connect these facts with certain other facts of the physical features of the country, and some generally observed analogous phenomena in other parts of the world, and by a course of reasoning on these, he arrives at the following generalizations as to the acute infectious diseases:

First. "That each one of the class possesses an original habitat or indigenous locality.

Second. "Then when one of the type is developed in a locality foreign to the disease, it occurs from a transportation, not of the original cause, but of the representative results of the disease.

Third. "That the original producing agent may be of animal or vegetable character, coming immediately from animalcular or micro-phytic forms, or directly or indirectly from the lower animal creation; and it would appear not impossible, that a contagion of specific character might be wholly inorganic in constitution.

Fourth. "That the contagion of a type disease in man, does not consist of vegetable germs, but is a product of a preceding type-action, and is representative of that action in its atomic construction, and possesses the property, under vital and physical laws, of inducing the typical action in a healthy system.

Fifth. "The atmospheric aridity to the extent existing upon the South Pacific coast, does not destroy phyto-germ life, and hence cannot be the cause of the exemption of that coast from the acute infectious diseases; nor can it be said to decompose either animal or vegetable germs; but, upon the contrary, is rather preservative of them.

Sixth. "That violent electric energy, as an agent powerfully operative in inducing energetic transmutation, directly decomposes the infectious molecule by chemical rearrangement or breaking up of its atoms."

These conclusions may or may not be accepted by our readers; we cannot ourselves fully appreciate all of them or follow the author in all his reasoning which leads to them. The facts and the observations in medical geography on which they are based are suggestive, however, and we hope that Dr. Logan will give some time more fully their details. Some criticism might be made of the author's physical theories and of his style, which appears to us sometimes rather strained. But we leave the work in these respects to the judgment of the individual reader.

II. This is, it seems to us, a very excellent condensed manual of operative surgery, and will be, we think, a safe and convenient guide, not superseding, but supplementing the larger works on the same subject. The text is made very easy to understand by the profuseness of the illustrations. We predict for it a very extensive circulation in the profession.

III. An American translation of a work by so respectable an authority as Prof. Schweigger, which has already attained its third edition in its own country, must, of necessity, be an addition to our medical literature, provided that the translator has done his work well. In the present instance, this appears, with the examination we have been able to give it, to be very fairly done. To those who desire a convenient, scientific manual of ophthalmology, well up to the more recent advances in the department, we can safely recommend its purchase.

IV. The readers of the *American Journal of Obstetrics* will be familiar with most of the illustrations and text of the present volume. It is, in fact, a republication of a rather notable series of papers in that journal. The author having had a well-marked case of congenital lymphangiectic elephantiasis in his practice, was led to look up the subject and utilize, as few Washington physicians appear to do, the opportunities afforded by the National Medical Library, and has collected in medical literature nearly ninety similar and allied cases, which he here discusses in this profusely illustrated monograph. The whole he classes under the general head of dilatation and occlusion of lymph-channels. There is not a great deal that is original in the volume, nor is there any pretense of it, but the author has shown a very commendable industry, and has made a very useful compilation.

V. This little volume will find a welcome in many quarters, and, we doubt not, supply a great need. It will be useful to the general practitioners, many of whom, we have a suspicion, might find in its pages some practical hints that would be information to them. On the other hand, the general circulation of such a book as this among the laity would be of the greatest advantage. We might say with more truth than it is usually said that "no well-regulated family can afford to be without it."

VI. Michigan is almost, if not quite, exceptional among the Northwestern States in having a bureau of vital statistics, which publishes elaborate annual reports. The very respectable volume before us seems to leave little to be asked for from its able compiler, Dr. H. B. Baker. He has very fully worked up the various statistics of births, marriages, and deaths, for the State of Michigan for the year 1872, giving very numerous and elaborate tables, and diagrams illustrating the curves of births, deaths and marriages at different periods, with full discussions of the same. Some of these, such as those on the relative birth-rate among foreign and native-born residents are of interest in connection with statements that have been made in regard to this point by Eastern medical statisticians.

We see in his tables of deaths, classified according to causes, that the number of those from nervous disorders exceed in number those from any other class, except those that are properly called zymotic, a proportion somewhat unusual we think. As in all registration statistics, the classification might, and ought to be, improved.

Altogether, this volume is a credit to the State under whose auspices it appears, and to the compiler, Dr. Baker. We hope that we may in the near future see equally valuable contributions from other States, which at present furnish none.

VII. Recognizing the various errors incident to the previous methods of æsthesiometry, the author presents us with two new means of testing the tactile sense. With E. H. Weber and the

been my chief purpose to avoid." This extract shows not only that the author was not insensible to the view which might be fairly taken, by dispassionate readers, of his hot and vigorous criticisms—which we believe to have been substantially deserved—but it shows also in part his reasons for adopting the style which in some measure characterizes his paper. Our principal objects in writing these lines, are to join in condemning as a rule all personalities and vituperative language, especially in medical writings, and also to express the opinion, that to describe Dr. Spitzka's paper as *characterized* by personalities and by the employment of the vituperative language of American or other politics, is to do him, if not ourselves, as the publishers of his paper, a certain measure of injustice. It contains really but few personalities, being directed chiefly against the shortcomings of a class, rather than separate individuals. Moreover, while the language is hot, and at times even intemperate, it cannot be fairly spoken of as vituperative. It is a style of writing more common we believe in Germany than in America, which former country we believe the *Journal of Mental Science* to be in error in giving as the fatherland of our contributor. But the final object we have had in writing this has been, to call attention to an instance in which personalities and vituperation reach a height hitherto unknown in respectable medical literature in this country. We now refer to the paper by Dr. Grissom, of North Carolina, on "True and False Experts," before the "Association of Superintendents of Hospitals for the Insane," at its annual meeting at Washington, since published entire in the *American Journal of Insanity*. Many of our readers must have seen this remarkable paper, for a reprint has been rather widely circulated.

It contains an attack of the most personal and offensive description upon one of the associate editors of this journal, against which attack one of the members of the Association (Dr. Wallace), in a speech remarkable for manliness and vigor, said, "for one I claim the right to protest against it with all the emphasis of which I am capable." In the conclusion of his speech against the personalities of Dr. Grissom, he says, "I beg to conclude with a resolution, to which I do not expect a second, and seconded, not a single vote, except my own :

“*Resolved*, That the members of the Association of Superintendents of American Institutions for the Insane, listened to the personal attack upon a professional brother of New York, by one of their number, Dr. Eugene Grissom, of North Carolina, with unmixed regret, as out of place, and as calculated to do no good, but, on the other hand, to stir up strife and confusion, and therefore contrary to the spirit of science and the benevolent, humane work, in which they are engaged.”

So far as the record goes to show, the prediction of the author of the resolution was fulfilled, in that his resolution was not seconded, and did not receive a single vote, but, on the contrary, it is said, outside of the record, to have been received with marked approval, the motion above quoted was promptly laid on the table, and the offensive paper is now published as the leading article in the *Journal of Insanity*, without a word of editorial comment.

It must be remembered, that the article of Dr. Spitzka was directed as a criticism, not so much against persons, as against the character of their scientific labors, and the alleged mismanagement of great *public institutions* by *public officers* of the same. But this attack of Dr. Grissom on Dr. Hammond, is *purely personal*. It aggravates the case when it is known that he had no personal acquaintance whatever with Dr. Hammond, and had never in any way, so it would seem, received an injury or any sort of notice from him.

Dr. Hammond is described by Dr. Grissom, as “lost to conscience and honor,” as “a Bombastes Furioso of false experts,” as “a modern Spartan,” a “Titus Oates,” as “the Cagliostro of to-day,” “a moral monster, whose baleful eyes glare with delusive light, whose bowels are but bags of gold, to feed which, spider-like, he casts his loathsome arms about a helpless prey,” and many other passages, in which, among other things, the private religious beliefs of Dr. Hammond are canvassed in a disparaging and unwarrantable manner.

We do not deem any comment necessary, especially since Dr. Hammond has taken the case in his own hands, in an “open letter” to Dr. Grissom. But we wish to call the attention of the *Journal of Mental Science* to this flagrant specimen of personalities and vituperation, which, notwithstanding their

silence, at their meeting and in their journal, we cannot believe met with the approval of all those who heard the paper of Dr. Grissom. We hope the time will be long before we may have to notice such a venomous personal attack, really on impersonal grounds, by one professional gentleman of standing on another.

Under the circumstances, we could scarcely avoid, in justice to ourselves, noticing the cases on which we have commented, for various reasons, and among them that of improving a chance to set the seal of our condemnation on offensive personalities and abusive, intemperate language anywhere, especially in medical writings.
